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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jarkko Oksala

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WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER

TRAN, KHANH C

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,927

Applicant(s)

OKSALA ET AL.

Examiner

Khanh Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-19 and 21-24 is/are rejected.
- 7) ☒ Claim(s) 16 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 12 is objected to because of the following informalities: in line 2, "PCCCH" should not be abbreviated; and "GPRS" should not be abbreviated. Appropriate correction is required.

2. Claim 13 is objected to because of the following informalities: in line 2, "GPRS" should not be abbreviated. Appropriate correction is required.

3. Claim 17 is objected to because of the following informalities: in line 2, "GPRS" should not be abbreviated. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 provides for the use of "*a reference level for automatic gain control of a radio frequency signal to be received*", but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending

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to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 1 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

5. Claims 2-13, 18-19 and 21-24 are also rejected because of dependency on claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 5-6, 9, 12-15, 17, 21-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Pecen U.S. Patent 6,603,825 B1.

Regarding claim 1, Pecen is directed to a receiver automatic gain control including a variable gain receiver having a control input and responsive to a gain control signal for adjusting the output level of the receiver. In column 5, lines 25-

40, the GPRS data transfer characteristics for the GSM system is provided by packet switching. Instead of a dedicated time slot, each transfer of data from the local transceiver to the remote transceiver is accomplished using packets having a setup sequence, data, and a tear down sequence, as represented in FIG. 5. In column 8, lines 20-25, Pecen invention provides significant improvement in the systems, where gain control for packet transmissions is particularly challenging. By definition, a packet is equivalent to a frame.

In column 8, lines 25-50, Pecen teaches a method for automatic gain control comprising:

Measuring a traffic channel (TCH) (e.g. packet data channel (PDCH)) signal level and broadcast control channel (BCCH) carrier signal level to determine a BCCH carrier to interference ratio and a TCH carrier to interference ratio;

Adjusting a receiver gain of the receiver that receives information on a TCH, in response to the BCCH carrier signal level, and the BCCH carrier to interference ratio reaching a first predetermined value and said TCH carrier to interference ratio reaching a second determined value. The second determined value corresponds to the claimed predetermined transmission power. The step, as taught by Pecen, of "adjusting a receiver gain of the receiver that receives information on a TCH, in response to the BCCH carrier signal level" corresponds to the claimed "using a predetermined way of controlling the transmission power".

As recited above, the BCCH carrier to interference ratio corresponds to the claimed reference level, wherein the BCCH carrier to interference ratio is determined by signal quality measurement.

The step of "adjusting a receiver gain of the receiver that receives information on a TCH, in response to the BCCH carrier signal level" corresponds to the claimed step of "the reference level is corrected on the basis of the signal strength measured during reception. The TCH corresponds to the claimed "logical packet data traffic channel".

Regarding claim 5, in column 6 lines 60-67, the GSM GPRS specification requires the radiotelephones 104 404 405 as shown in figure 4 take signal measurements repeatedly and communicate this information to a base station. Hence, the act of "taking signal measurements repeatedly" corresponds to the claimed "one or more frames of the received radio block are selected".

Regarding claim 6, claim 6 is rejected on the same ground as for claim 5 because of similar scope.

Regarding claim 9, Pecen teachings apply to General Packet Radio Service (GPRS) in which data packets with variable lengths are transmitted.

Regarding claim 12, in column 3 lines 45-60, Pecen teaches that the system automatic gain control operates by the local transceiver 102 first determining where to set the transmitter 132 power level for the packet data channel (PDCH) relative to the broadcast carrier channel (BCCH). The PDCH channel includes logical channels, e.g. Packet Common Control Channel (PCCCH).

Regarding claim 13, as recited in claim 12, Pecen teaches that the system automatic gain control operates by the local transceiver 102 first determining where to set the transmitter 132 power level for the packet data channel (PDCH) relative to the broadcast carrier channel (BCCH). The decision is made in processor 130 (see figure 2) based upon a signal quality measurement received from the remote station 104 and the received carrier power BCCH carrier reported by the remote transceiver 104 back to the local transceiver 102 (see figure 4).

Regarding claim 14, claim 14 is rejected on the same ground as for claim 1 because of similar scope.

Regarding claim 15, referring to figure 4, in column 3 lines 45-60, Pecen teaches that the system automatic gain control operates by the local transceiver 102 first determining where to set the transmitter 132 power level for the packet data channel (PDCH) relative to the broadcast carrier channel (BCCH). The decision is made in processor 130 (see figure 2) based upon a signal quality measurement received from

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the remote station 104 and the received carrier power BCCH carrier reported by the remote transceiver 104 back to the local transceiver 102 (see figure 4).

Regarding claim 17, Pecen teachings apply to GPRS network.

Regarding claim 21, claim 21 is rejected on the same ground as for claim 5 because of similar scope.

Regarding claim 22, claim 22 is rejected on the same ground as for claim 5 because of similar scope.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4, 7-8, 18-19 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen U.S. Patent 6,603,825 B1.

Regarding claim 2, Pecen does not teach the reference level is corrected by calculating its running average with respect to time as claimed.

However, in column 6, lines 60-67, Pecen discusses the GSM GPRS specification requires that the radiotelephones 104 404 405 as shown in figure 4

take signal measurements repeatedly and communicate this information to a base station. As common knowledge of one of ordinary skill in the art at the time of the invention, because averaging signal measurements is more accurate representation of the received signal over instantaneous measurements, in light of that, it would have been obvious for one of ordinary skill in the art at the time of the invention that Pecen teachings can be modified such that the BCCH carrier signal level is adjusted based on the running average with respect to time as claimed by Applicants.

Regarding claim 3, Pecen teachings apply to the General Packet Radio Service (GPRS) in which data packets with variable length are transmitted. Referring to figure 3, the receiver includes a filter 310. Also, as recited in claim 2, the GSM GPRS specification requires that the radiotelephones 104 404 405 as shown in figure 4 take signal measurements repeatedly and communicate this information to a base station. In light of the aforementioned teachings, because the filter 310 filters data packets with variable length to eliminate signals outside of the desired received signal frequency band, one of ordinary skill in the art at the time of the invention would have been motivated to implement filter 310 with a varying length as claimed in the applicant claim.

Regarding claim 4, as recited in claim 2, the GSM GPRS specification requires that the radiotelephones 104 404 405 as shown in figure 4 take signal measurements repeatedly and communicate this information to a base station. Because the

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requirements of GSM GPRS specification, it would have been obvious for one of ordinary skill in the art at the time of the invention that Pecen teachings can be modified to average a predetermined number of frames (i.e. packets) in the radio block.

Regarding claim 7, claim 7 is rejected on the same ground as for claim 2 because of similar scope. Furthermore, the average of the received signal of several packets is un-weighted and the BCCH carrier signal level is adjusted based on the running average.

Regarding claim 8, Pecen does not teach the signal strength is determined by using samples measured from the signal.

Referring to figure 3, in column 3 lines 25-35, the controller 114 can be implemented using a digital signal processor (DSP). Because the controller 114 can be a DSP, one of ordinary skill in the art would have been motivated to convert the received signal into digital samples and the signal quality measurement is determined by using samples measured from the received signal.

Regarding claim 18, claim 18 is rejected on the same ground as for claim 4 because of similar scope.

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Regarding claim 19, claim 19 is rejected on the same ground as for claim 7 because of similar scope.

Regarding claim 23, claim 23 is rejected on the same ground as for claim 7 because of similar scope.

Regarding claim 24, claim 24 is rejected on the same ground as for claim 7 because of similar scope.

Allowable Subject Matter

8. Claims 10-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Claims 16 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rich et al. U.S. Patent 5,758,271 discloses "Apparatus And Method For Optimizing The Quality Of Received Signal In A Radio Receiver".

Honkasalo et al. U.S. Patent 5,331,638 discloses "Gain Control In A TDMA Radio-Telephone System".

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Khanhcong Tran

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Examiner ~~KHANH~~ TRAN